

ABSTRACT OF THE DISCLOSURE

A data replication facility for distributed computing environments. A computer network having a plurality of network nodes utilizes a distributed directory provider service (DPS) having an established master node. The DPS supports a file replication service (FRS). The FRS establishes one of the nodes as originator node which receives new or updated files from one or more user/GUIs and/or from one or more software providers such as a security provider. The originator node in cooperation with the master node establish a backup copy of the new or updated file in the master node. Thereafter, the originator node publishes a File Version Variable (FVV) representation of the new or updated file to other network nodes (slave nodes) which obtain such file from the originator or, if need be, from the backup master node. Object observers are utilized to determine changes to the file version variables thereby triggering the downloading of new or updated files into the network nodes, whereby data file replication is accomplished throughout the network. In addition to avoiding a single point of failure, embodiments of the present invention also are network-topology independent. Additional syncing threads are employed as part of the file replication service to further ensure synchronization of the network nodes' data files within a predetermined interval, regardless of network failure modes. Embodiments of the present invention are particularly useful with networks of the client-server storage network variety.